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EXAMINER	
PRUNNER, KATHLEEN J	
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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

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Office Action Summary	**Application No.** 10/678,394	**Applicant(s)** MARSHALL, KEITH
	Examiner Kathleen J. Prunner	**Art Unit** 3751

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _31 January 2005_.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-17 and 19-21_ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-17 and 19-21_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _31 January 2005_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The replacement (Fig. 2) and new (Fig. 3) drawings were received on January 31, 2005. These drawings are acceptable.

Specification

2. The following informalities in the specification are noted: **(A)** in the replacement paragraph beginning on line 3 of page 7, on line 4, "first" and "100" should be changed to read --second-- and --105--, respectively, since the closed or inhibited flow position is shown in Fig. 2; and **(B)** in the replacement paragraph beginning on line 20 of page 7, on line 2, "Movement" should be changed to read --In the closed position of Fig. 2, movement-- so as to clarify the differences between Figs. 2 and 3. Appropriate correction is required.

3. The following informalities in the claims are noted: **(A)** in claim 15, on line 5, --and-- should be inserted after the semi-colon.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-17 and 19-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 now calls for a sensor "operable to sense a liquid level within the bowl" and "output an electrical signal indicative of the liquid level" (note lines 5-6). However, the originally filed disclosure only describes and supports a sensor 70 "positioned above a normal water level line 75 near a flood line 80" and that "includes a pressure sensor in the form of a pressure switch 85 ... to detect when the water level within the bowl 15 exceeds a predetermined value" and that "At a predetermined pressure, the pressure switch 85 generates a flood signal that indicates a flood is occurring or is imminent." and that "the sensor 70 generates a simple signal representing either "flood" or "no flood"." (note lines 9-23 on page 4). The originally filed disclosure also only describes and supports that the "signal is actually a zero-voltage signal when no flooding is present and is a 5-volt signal when flooding exists" (note lines 1-2 on page 5) and that the "sensor 70 directly detects the presence of water at the elevated level and sends a signal indicating a flood may be in progress" (note lines 9-10 on page 5). Therefore, the originally filed disclosure fails to support or describe that the sensor 70 senses "a liquid level within the bowl", i.e., any liquid level within the bowl, and can "output an electrical signal indicative of" any such liquid level. Hence, claim 1 is directed to new matter.

Similarly, claim 1 now calls for a sensor "operable to sense a liquid level within the bowl and output an electrical signal indicative of the liquid level" (note lines 5-6) and also calls for "an electrical controller coupled to the sensor to receive the electrical signal" (note lines 8-9). However, the originally filed disclosure only describes and supports "a controller 95" and that the controller "receives the flood signal and the flush signal and uses these inputs to control the valve 40" (note lines 19-20 on page 6), "A valve 40 is located within the supply pipe 35 to control the flow of water to the bowl 15." (note lines 3-4 on page 4) and that "One controller 95 suited to this purpose is the Time-Trol Modular Valve Controller marketed by Acorn Engineering Corporation of Industry, California. Other constructions may employ other types of electronic controls" (note lines 20-23 on page 6) and "still other constructions, a series of relays control the flushing operation rather than an electronic control." (note lines 1-2 on page 7). Therefore, the originally filed disclosure fails to support or describe that the controller 95 receives "an electrical signal indicative of" any such liquid level. Hence, claim 1 is directed to new matter.

Claim 1 additionally now calls for the electronic controller to be "operable to move the valve to the open position in response to movement of the actuator to the flush position and the receipt of the electrical signal having a value indicative that the liquid level with the bowl is below a predetermined level" (note lines 9-11). However, the originally filed disclosure only describes and supports that the controller 95 "receives a flush signal when the push button 90 is moved to a flush position" (note lines 17-18 on page 8) and that the controller 95 "energizes the solenoid 60 only if no signal is received from the flood sensor 70, or a signal is received that indicates that no flood is occurring." (note lines 18-20 on page 8) and that if the controller 95 "receives a flood signal, actuation of the push button 90 will not initiate a flush sequence. Thus, the single valve 40 acts to control the flush sequence, while inhibiting flooding" (note from line 23 on page 8 to line 1 on page 9). The originally filed disclosure further only describes and supports that the valve 40 "is located within the supply pipe 35 to control the flow of water to the bowl 15. The valve 40 ... is a solenoid-operated normally-closed valve that includes ... a solenoid 60" (note lines 3-5 on page 4), "To open the valve 40, the solenoid 60 is first energized to move a plunger 145 to an open position." (note lines 20-21 on page 7), and "To close the valve 40, the solenoid 60 is deenergized, thereby allowing a biasing spring 160 to move the plunger 145 into the closed position." (note lines 8-9 on page 8). The originally filed disclosure additionally only describes and supports that the actuator is "in the form of a push button 90 ... to initiate a flush. The push button 90 generates a flush signal when it is moved." (note lines 1-3 on page 6), "the flush signal is generally one of an 'on' or 'flush' signal and an 'off' or 'idle' signal" (note lines 3-4 on page 6). Therefore, the originally filed disclosure fails to support or describe that the electronic controller is operable to "move the valve to the open position" in response to "movement of the actuator to the flush position". Also, the originally filed disclosure fails to support or describe that the electronic controller is operable to "move the valve to the open position in response to ... the receipt of the electrical signal having a value indicative that the liquid level within the bowl is below a predetermined level". Hence, claim 1 is directed to new matter.

Claim 3 calls for the sensor to include "a liquid level sensor". However, the originally filed disclosure only describes and supports that the sensor "includes a pressure sensor in the form of a pressure switch 85, a tube 88, and a port 89 disposed behind the wall 20 and in fluid communication with the bowl 15. While a pressure switch 85 is described herein, many other types of pressure sensors could be used to detect when the water level within the bowl 15 exceeds a predetermined value." (note lines 12-16 on page 4). The originally filed disclosure also only describes and supports that the "sensor 70 directly detects the presence of water at the elevated level" (note lines 9-10 on page 5). Therefore, the originally filed disclosure fails to support or describe that the sensor 70 senses "a liquid level within the bowl", i.e., any liquid level within the bowl.

Claim 5 now calls for the sensor to detect a pressure "indicative of a liquid level within the bowl and sends an electrical signal to the controller when the pressure exceeds a predetermined value". However, the originally filed disclosure only describes and supports that the sensor "includes a pressure sensor in the form of a pressure switch 85, a tube 88, and a port 89 disposed behind the wall 20 and in fluid communication with the bowl 15. While a pressure switch 85 is described herein, many other types of pressure sensors could be used to detect when the water level within the bowl 15 exceeds a predetermined value." (note lines 12-16 on page 4) and that "At a predetermined pressure, the pressure switch 85 generates a flood signal that indicates a flood is occurring or is imminent." (note lines 19-21 on page 4). Therefore, the originally filed disclosure fails to support or describe that the sensor "detects a pressure indicative of a liquid level within the bowl", i.e., any liquid level within the bowl. Also, the originally filed disclosure fails to support or describe that the sensor "sends an electrical signal to the controller when the pressure exceeds a predetermined value". Hence, claim 5 is directed to new matter.

Claims 6 and 11 call for "the controller inhibits movement of the valve to the open position when the sensor senses a liquid level above the predetermined level". However, the originally filed disclosure only describes and supports that the sensor is "in the form of a pressure switch 85, a tube 88, and a port 89 disposed behind the wall 20 and in fluid communication with the bowl 15. While a pressure switch 85 is described herein, many other types of pressure sensors could be used to detect when the water level within the bowl 15 exceeds a predetermined value." (note lines 12-16 on page 4) and that the "sensor 70 directly detects the presence of water at the elevated level" (note lines 9-10 on page 5). The originally filed disclosure also only describes and supports that the "controller 95 receives the flood signal and the flush signal and uses these inputs to control the valve 40" (note lines 19-20 on page 6) and that "the controller 95 ... receives a flush signal when the push button 90 is moved to a flush position. The controller 95 energizes the solenoid 60 only if no signal is received from the flood sensor 70, or a signal is received that indicates that no flood is occurring." (note lines 17-20 on page 8) and that "the single valve 40 acts to control the flush sequence, while inhibiting flooding." (note from line 24 on page 8 to line 1 on page 9). Therefore, the originally filed disclosure fails to support or describe that the "controller inhibits movement of the valve to the open position" or that such inhibiting occurs "when the sensor senses a liquid level above the predetermined level".

Claims 7 and 12 call for the controller to include "a timer operable to initiate movement of the valve to the closed position after the valve has been in the open position for a predetermined length of time". However, the originally filed disclosure only describes and supports that "Once the flush sequence is initiated, the controller 95 times the duration that the valve 40 is in the open position. After a predetermined length of time, the controller 95 deenergizes the solenoid 60 and the valve 40 closes." (note lines 20-22 on page 8). Therefore, the originally filed disclosure fails to support or describe "a timer" or that such a timer is "operable to initiate movement of the valve to the closed position after the valve has been in the open position for a predetermined length of time".

Claim 9 calls for a "liquid-level sensor ... operable to sense a liquid level within the bowl" (note lines 7-8). However, the originally filed disclosure only describes and supports a sensor 70 "positioned above a normal water level line 75 near a flood line 80" and that "includes a pressure sensor in the form of a pressure switch 85 ... to detect when the water level within the bowl 15 exceeds a predetermined value" and that "At a predetermined pressure, the pressure switch 85 generates a flood signal that indicates a flood is occurring or is imminent." and that "the sensor 70 generates a simple signal representing either "flood" or "no flood"." (note lines 9-23 on page 4). The originally filed disclosure also describes and supports that the "sensor 70 directly detects the presence of water at the elevated level and sends a signal indicating a flood may be in progress" (note lines 9-10 on page 5). Therefore, the originally filed disclosure fails to support or describe that the sensor 70 is a "liquid-level" sensor or that it senses "a liquid level within the bowl", i.e., any liquid level within the bowl.

Claim 9 now calls for "the liquid-level sensor" to be "operable to output an electrical flood signal in response to a sensed liquid-level above a predetermined level" (note lines 8-9). However, the originally filed disclosure only describes and supports a sensor 70 "positioned above a normal water level line 75 near a flood line 80" and that "includes a pressure sensor in the form of a pressure switch 85 ... to detect when the water level within the bowl 15 exceeds a predetermined value" and that "At a predetermined pressure, the pressure switch 85 generates a flood signal that indicates a flood is occurring or is imminent." and that "the sensor 70 generates a simple signal representing either "flood" or "no flood"." (note lines 9-23 on page 4). The originally filed disclosure also only describes and supports a "sensor 70 directly detects the presence of water at the elevated level and sends a signal indicating a flood may be in progress" (note lines 9-10 on page 5). Therefore, the originally filed disclosure fails to support or describe that the sensor 70 outputs "an electrical" flood signal that is "in response to a sensed liquid-level above a predetermined level". Hence claim 9 is directed to new matter.

Claim 9 also now calls for the controller to be "operable to move the valve to the open position in response to movement of the actuator to the flush position and the absence of the flood signal" (note lines 11-12). However, the originally filed disclosure only describes and supports that the actuator is "in the form of a push button 90 ... to initiate a flush. The push button 90 generates a flush signal when it is moved." (note lines 1-3 on page 6), "the flush signal is generally one of an 'on' or 'flush' signal and an 'off' or 'idle' signal" (note lines 3-4 on page 6). The originally filed disclosure also only describes and supports that the controller 95 "receives a flush signal when the push button 90 is moved to a flush position" (note lines 17-18 on page 8) and that the controller 95 "energizes the solenoid 60 only if no signal is received from the flood sensor 70, or a signal is received that indicates that no flood is occurring." (note lines 18-20 on page 8) and that if the controller 95 "receives a flood signal, actuation of the push button 90 will not initiate a flush sequence. Thus, the single valve 40 acts to control the flush sequence, while inhibiting flooding" (note from line 23 on page 8 to line 1 on page 9). The originally filed disclosure further only describes and supports that the valve 40 "is located within the supply pipe 35 to control the flow of water to the bowl 15. The valve 40 ... is a solenoid-operated normally-closed valve that includes ... a solenoid 60" (note lines 3-5 on page 4), "To open the valve 40, the solenoid 60 is first energized to move a plunger 145 to an open position." (note lines 20-21 on page 7), and "To close the valve 40, the solenoid 60 is deenergized, thereby allowing a biasing spring 160 to move the plunger 145 into the closed position." (note lines 8-9 on page 8). Therefore, the originally filed disclosure fails to support or describe that the controller is operable to "move the valve to the open position" in response to "movement of the actuator to the flush position". Also, the originally filed disclosure fails to support or describe that the controller is operable to "move the valve to the open position in response to ... the absence of the flood signal". Hence, claim 9 is directed to new matter.

Claim 10 calls for "the sensor detects a pressure and sends the flood signal to the controller when the pressure exceeds a predetermined value". The originally filed disclosure only describes and supports that "The sensor 70 includes a pressure sensor in the form of a pressure switch 85, a tube 88, and a port 89 disposed behind the wall 20 and in fluid communication with the bowl 15. While a pressure switch 85 is described herein, many other types of pressure sensors could be used to detect when the water level within the bowl 15 exceeds a predetermined value. The tube 88 connects the pressure switch 85 to the sensor port 89 in the bowl 15. As water rises above the sensor port 89, it covers the end of the tube 88 and seals the air within the tube 88. Thus, any further increase in the water level acts to increase the hydrostatic pressure within the tube 88. At a predetermined pressure, the pressure switch 85 generates a flood signal that indicates a flood is occurring or is imminent." (note lines 12-21 on page 4). The originally filed disclosure also only describes and supports that a "sensor 70 directly detects the presence of water at the elevated level and sends a signal indicating a flood may be in progress" (note lines 9-10 on page 5). Therefore, the originally filed disclosure fails to support or describe that the sensor "detects a pressure", i.e., any pressure, or that the flood signal is sent to the controller "when the pressure exceeds a predetermined value".

Claim 14 calls for "the sensor sends a first signal to the controller when the liquid level is below the predetermined value and the sensor sends a second signal to the controller when the liquid level is above the predetermined value". The originally filed disclosure only describes and supports that "the sensor 70 generates a simple signal representing either 'flood' or 'no flood'... In addition, a simple switch could be used to open or close a circuit when a flood condition exists. In still other constructions, more than two discrete signals are used... A signal value above or below a predetermined level would then represent a flood condition." (note the paragraph beginning on line 22 of page 4). Therefore, the originally filed disclosure fails to support or describe that the sensor "sends a first signal to the controller when the liquid level is below the predetermined value and the sensor sends a second signal to the controller when the liquid level is above the predetermined value".

Claim 15 now calls for "sensing a liquid level with the bowl" and "generating an electrical signal indicative of the liquid level" (note lines 3-4). The originally filed disclosure only describes and supports a sensor 70 "positioned above a normal water level line 75 near a flood line 80" and that "includes a pressure sensor in the form of a pressure switch 85 ... to detect when the water level within the bowl 15 exceeds a predetermined value" and that "At a predetermined pressure, the pressure switch 85 generates a flood signal that indicates a flood is occurring or is imminent." and that "the sensor 70 generates a simple signal representing either "flood" or "no flood" (note lines 9-23 on page 4). The originally filed disclosure also only describes and supports that the "sensor 70 directly detects the presence of water at the elevated level and sends a signal indicating a flood may be in progress" (note lines 9-10 on page 5). Therefore, the originally filed disclosure fails to support or describe that the sensor 70 is a "liquid-level" sensor or that it senses "a liquid level within the bowl", i.e., any liquid level within the bowl and that "an electrical signal indicative of the liquid level" is generated.

Claim 15 also now calls for "opening the valve ... when the actuator is in the flush position and the generated electrical signal corresponds to a liquid level within the bowl that is below a predetermined value" (note lines 6-8). The originally filed disclosure only describes and supports "An actuator in the form of a push button 90 is positioned adjacent the bowl 15 to allow the user to initiate a flush. The push button 90 generates a flush signal when it is moved. Like the sensor signal, the flush signal is generally one of an 'on' or 'flush' signal and an 'off' or 'idle' signal" (note lines 1-4 on page 6). The originally filed disclosure also only describes and supports that "A controller 95 receives the flood signal and the flush signal and uses these inputs to control the valve 40" (note lines 19-20 on page 6) and "In operation, the controller 95 of Fig. 1 receives a flush signal when the push button 90 is moved to a flush position. The controller 95 energizes the solenoid 60 only if no signal is received from the flood sensor 70, or a signal is received that indicates that no flood is occurring." (note lines 17-20 on page 8). Therefore, the originally filed disclosure fails to support or describe "opening the valve ... when the actuator is in the flush position and the generated electrical signal corresponds to a liquid level within the bowl that is below a predetermined value". Hence claim 15 is directed to new matter.

New claim 21 calls for the additional steps of "delivering the generated electrical signal to the controller", "comparing the generated electrical signal to a flood signal", and "inhibiting the opening step (opening a valve ...) when the generated electrical signal matches the flood signal". The originally filed disclosure also only describes and supports a sensor 70 "positioned above a normal water level line 75 near a flood line 80" and that "includes a pressure sensor in the form of a pressure switch 85 ... to detect when the water level within the bowl 15 exceeds a predetermined value" and that "At a predetermined pressure, the pressure switch 85 generates a flood signal that indicates a flood is occurring or is imminent." and that "the sensor 70 generates a simple signal representing either "flood" or "no flood"." (note lines 9-23 on page 4). The originally filed disclosure also only describes and supports that the "sensor 70 directly detects the presence of water at the elevated level and sends a signal indicating a flood may be in progress" (note lines 9-10 on page 5). The originally filed disclosure also only describes and supports that "A controller 95 receives the flood signal and the flush signal and uses these inputs to control the valve 40" (note lines 19-20 on page 6), "In operation, the controller 95 of Fig. 1 receives a flush signal when the push button 90 is moved to a flush position. The controller 95 energizes the solenoid 60 only if no signal is received from the flood sensor 70, or a signal is received that indicates that no flood is occurring." (note lines 17-20 on page 8), and "If the controller 95 receives a flood signal, actuation of the push button 90 will not initiate a flush sequence." (note lines 23-24 on page 8). Therefore, the originally filed disclosure fails to support or describe the additional steps of "delivering the generated electrical signal (indicative of the liquid level) to the controller", "comparing the generated electrical signal to a flood signal", and "inhibiting the opening step (opening a valve ...) when the generated electrical signal matches the flood signal". Hence claim 21 is directed to new matter.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 14, 16 and 21 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claim 14 contains a term lacking proper antecedent basis. The claim recites the limitation "the predetermined value" in lines 2 and 3-4. There is insufficient antecedent basis for this limitation in the claim.

9. Claim 16 contains a term lacking proper antecedent basis. The claim recites the limitation "the sensing step" in line 1. There is insufficient antecedent basis for this limitation in the claim.

10. Claim 21 contains a term lacking proper antecedent basis. The claim recites the limitation "the opening step" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

12. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

13. Claims 1-17 and 19-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Laverty, Jr. Laverty, Jr., discloses a toilet having all the claimed features including a bowl 6 sized to contain a liquid, a valve 7 movable from a normally closed position in which liquid does not flow to the bowl 6 to an open position in which the liquid is delivered to the bowl 6, a sensor 16 operable to sense a liquid level within the bowl 6 (note lines 44-48 in col. 4) and output an electrical signal indicative of the liquid level (note lines 36-42 in col. 12 and lines 33-43 in col. 13), an actuator 11 movable between the on or flush position (note lines 41-52 in col. 8) and an off or idle position (note lines 52-54 in col. 8), and an electronic controller (note lines 21-31 in col. 11, lines 1-3 and 36-42 in col. 12 and lines 21-24 in col. 16) operable to move the valve 7 to the open position in response to movement of the actuator 11 to the on or flush position (note lines 31-33 in col. 4) and a liquid level within the bowl 6 below a predetermined level (note lines 40-52 in col. 4). With respect to claims 2 and 9, Laverty, Jr., also discloses that the valve includes a solenoid actuated valve 100 (note lines 32-43 in col. 10). With respect to claim 3, Laverty, Jr., further discloses that the sensor 16 includes a liquid level sensor (note lines 44-48 in col. 4). With regard to claim 4, Laverty, Jr., additionally discloses that a portion of the sensor 16 is disposed within the bowl 6 (note Fig. 1 and lines 44-50 in col. 4). With regard to claims 5 and 10, Laverty, Jr., further discloses that the sensor 16 detects a pressure, i.e., water pressure, and sends a signal to the controller when the pressure exceeds a predetermined value (note lines 24-38 in col. 5 and lines 3-40 in col. 6). With respect to claims 6 and 11, Laverty, Jr., also discloses that the controller inhibits movement of the valve 7 to the open position when the sensor 16 senses a liquid level above the predetermined level (note lines 21-40 in col. 6). With respect to claims 7 and 12, Laverty, Jr., further discloses that the controller includes a timer operable to initiate movement of the valve to the closed position after the valve has been in the open position for a predetermined length of time (note lines 11-20 in col. 11). With respect to claims 8 and 13, Laverty, Jr., additionally discloses that the valve 7 is the sole valve used to inhibit flooding (note lines 39-40 in col. 6) and to flush the toilet (note lines 31-33 in col. 4). With regard to claim 14, Laverty, Jr., further discloses that the sensor 16 sends a first signal to the controller when the

liquid level is below a predetermined value (note lines 3-20 in col. 6) and a second signal to the controller when the liquid level is above a predetermined value (note lines 40-48 in col. 4). With respect to claim 15, Laverty, Jr., discloses a method of operating a toilet having all the claimed features including providing a bowl 6 operable to contain a liquid, sensing (by use of sensor 16) a liquid level within the bowl 6 (note lines 44-48 in col. 4), generating an electrical signal indicative of the liquid level (note lines 36-42 in col. 12 and lines 33-43 in col. 13), moving an actuator 11 to a flush position (note lines 41-52 in col. 8), and opening a valve 7 to provide a flow of liquid to the bowl 6 when the actuator 11 is in the flush position (note lines 41-52 in col. 8) and the generated electrical signal corresponds to a liquid level within the bowl 6 that is below a predetermined value (note lines 40-52 in col. 4). With respect to claim 16, Laverty, Jr., also discloses that the sensing step includes measuring a pressure within the bowl 6 (note lines 47-52 in col. 8). With regard to claim 17, Laverty, Jr., further discloses that opening the valve 7 further comprises energizing a solenoid 100 (note lines 32-53 in col. 10). With respect to claim 19, Laverty, Jr., additionally discloses timing the duration that the valve 7 is open (note lines 58-59 in col. 8). With regard to claim 20, Laverty, Jr., also discloses closing the valve 7 in response to the passage of a predetermined length of time (note lines 58-59 in col. 8). With regard to claim 21, Laverty, Jr., further discloses providing an electronic controller (note lines 1-3 in col. 12 and lines 21-24 in col. 16), delivering the generated electrical signal to the controller (note from line 64 in col. 13 to line 5 in col. 14), comparing the generated electrical signal to a flood signal (note from line 64 in col. 13 to line 5 in col. 14), and inhibiting the opening (of valve 7) step when the generated electrical signal matches the flood signal (note lines 40-47 in col. 2, lines 40-44 in col. 4, from line 63 in col. 5 to line 40 in col. 6, and lines 36-42 in col. 12).

14. Claims 1-4, 6-9, 11-15, 17 and 19-21 are rejected under 35 U.S.C. 102(a) and 102(e) as being anticipated by Quintana et al. With respect to claims 1 and 9, Quintana et al. disclose a toilet 10 having all the claimed features including a bowl 11 sized to contain a liquid, a valve 34 movable from a normally closed position in which liquid does not flow to the bowl 11 to an open position in which the liquid is delivered to the bowl 11 (note lines 1-3 and 32-37 in col. 4), a

sensor 20 operable to sense a liquid level within the bowl 11 (note Fig. 1 and lines 9-10 and 19-23 in col. 3) and output an electrical signal indicative of the liquid level (note from line 58 in col. 1 to line 6 in col. 2, lines 11-15 in col. 3, from line 63 in col. 4 to line 2 in col. 5, and lines 14-15 in col. 5), an actuator (constituted by pushbutton 32) movable between the on or flush position (note lines 32-33 in col. 4) and an off or idle position (note lines 36-37 in col. 4), and an electronic controller (constituted by the microprocessor 26, note from line 58 in col. 1 to line 2 in col. 2, lines 11-15 in col. 3, and lines 14-15 in col. 5) coupled to the sensor 20 (note lines 11-15 in col. 3) to receive the electrical signal and operable to move the valve 34 to the open position in response to movement of the actuator 32 to the on or flush position (note lines 51-54 in col. 3 and lines 32-38 in col. 4) and the receipt of the electrical signal having a value indicative that the liquid level within the bowl 11 is below a predetermined level (note lines 7-11 in col. 1, from line 63 in col. 1 to line 2 in col. 2, lines 9-15 in col. 2, lines 9-10 and 19-23 in col. 3, lines 15-22 in col. 4, from line 63 in col. 4 to line 6 in col. 5, and lines 18-24 in col. 5). With respect to claims 2 and 17, Quintana et al. also disclose that the valve 34 includes a solenoid-actuated valve (note lines 51-54 in col. 3). With regard to claim 3, Quintana et al. further disclose that the sensor 20 includes a liquid level sensor (note lines 9-10 in col. 3). With regard to claim 4, Quintana et al. additionally disclose that the sensor 20 is disposed within the bowl 11 (note lines 19-20 in col. 3). With regard to claims 6 and 11, Quintana et al. further disclose that the controller 26 inhibits movement of the valve 34 to the open position when the sensor 20 senses a liquid level above the predetermined level (note from line 63 in col. 4 to line 6 in col. 5). With respect to claims 7 and 12, Quintana et al. also disclose that the controller 26 includes a timer operable to initiate movement of the valve 34 to the closed position after the valve 34 has been in the open position for a predetermined length of time (note lines 32-39 in col. 4). With respect to claims 8 and 13, Quintana et al. additionally disclose that the valve 34 is the sole valve used to inhibit flooding and to flush the toilet (note lines 32-37 in col. 4). With respect to claim 9, Quintana et al. further disclose that the toilet 10 is electrically controlled (note lines 14-15 in col. 5), the valve 34 is solenoid operated (note lines 51-54 in col. 3), the sensor 20 is a liquid level sensor (note lines 9-10 in col. 3) positioned within the bowl 11 (note lines 19-20 in col. 3) and operable to output an electrical flood signal in response to a sensed liquid level above a predetermined level (note from line 63 in col. 4 to line 6 in col. 5), and the controller 26 is operable to move the valve 34 to the open position in response to movement of the actuator 32 to the on or flush position (note lines 51-54 in col. 3 and lines 32-38 in col. 4) and the absence of the flood signal (note lines 15-19 in col. 4). With regard to claim 14, Quintana et al. also disclose that the sensor 20 sends a first electronic signal to the electronically operated controller 26 (note lines 14-15 in col. 5) when the liquid is below the predetermined level (note lines 7-11 in col. 1, from line 63 in col. 1 to line 2 in col. 2, lines 9-15 in col. 2, lines 9-10 and 19-23 in col. 3, lines 15-22 in col. 4, from line 63 in col. 4 to line 6 in col. 5, and lines 18-24 in col. 5) and a second electronic signal to the electronically operated controller 26 when the liquid is above the predetermined level (note from line 63 in col. 4 to line 6 in col. 5). With regard to claim 15, Quintana et al. additionally disclose a method of operating a toilet (note from line 32 in col. 4 to line 24 in col. 5) comprising providing a bowl 11 operable to contain a liquid, sensing a liquid level within the bowl 11 (note lines 19-20 in col. 3), generating an electronic signal indicative of the liquid level (note lines 4-24 in col. 3 and lines 14-15 in col. 5), moving an actuator 32 to a flush position (note lines 1-3 and 32-37 in col. 4), and opening a valve 34 to provide a flow of liquid to the bowl 11 when the actuator 32 is in the flush position (note lines 32-33 in col. 4) and the generated electronic signal corresponds to a liquid level within the bowl 11 that is below a predetermined level or value (note lines 7-11 in col. 1, from line 63 in col. 1 to line 2 in col. 2, lines 9-15 in col. 2, lines 9-10 and 19-23 in col. 3, lines 15-22 in col. 4, from line 63 in col. 4 to line 6 in col. 5, and lines 18-24 in col. 5). With respect to claim 19, Quintana et al. further disclose timing the duration that the valve 34 is open (note lines 32-39 in col. 4). With respect to claim 20, Quintana et al. also disclose closing the valve 34 in response to the passage of a predetermined length of time (note lines 32-39 in col. 4). With regard to claim 21, Quintana et al. additionally disclose providing an electronic controller (constituted by the microprocessor 26, note from line 58 in col. 1 to line 2 in col. 2, lines 11-15 in col. 3, and lines 14-15 in col. 5), delivering the liquid level generated electronic signal to the controller 26 (note lines 9-13 in col. 3 and lines 15-23 in col. 4), comparing the liquid level generated electronic signal to a flood signal (note from line 63 in col. 4 to line 6 in col. 5), and inhibiting the opening of the valve 34 when the liquid level generated electronic signal matches the flood signal (note from line 63 in col. 4 to line 6 in col. 5).

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

16. Claims 5, 10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quintana et al. in view of Laverty, Jr. Although Quintana et al. fail to disclose the type of sensor forming the water level sensor 20, attention is directed to Laverty, Jr., who discloses another toilet having a sensor 16 operable to sense a liquid level within the bowl 6 wherein the sensor 16 operates by detecting a pressure indicative of a liquid level within the bowl 6 (note lines 40-48 in col. 4 and lines 13-24 in col. 6) in order to use the water pressure to activate the sensor and the flushing of the toilet (note lines 33-40 in col. 6). It would have been obvious to one of ordinary skill in the toilet art, at the time the invention was made, to form the water level sensor of Quintana et al. as a pressure water level sensor in view of the teachings of Laverty, Jr., in order to use the water pressure to activate the sensor and to simplify the operation thereof when used in a water line system.

Response to Arguments

17. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

18. Applicant's arguments with regard to the Laverty, Jr., reference and a sensor that outputs an electrical signal indicative of the liquid level have been carefully considered. However, the reference clearly describes such a sensor as clearly pointed out in the above rejection of the claims. The reference clearly discloses an electrically operated system that includes the sensors. Since the system in the reference is electrical, the system must of necessity operate with signals which are defined by the Merrian-Wesbster OnLine Dictionary as a detectable physical quantity or impulse, such as voltage, current, or magnetic field strength, by which messages or information can be transmitted. If this were not the case, the electrically operated system in the reference would be inoperative.

19. Applicant's arguments with regard to the Laverty, Jr., reference and an electronic controller have been carefully considered. However, the reference clearly describes such a controller as pointed out in the above rejection of the claims. The "control means", as described on lines 21-24 in col. 16 of the reference, constitutes such an electronic controller.

Conclusion

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Kathleen J. Prunner whose telephone number is 571-272-4894.

22. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Justine Yu, can be reached on 571-272-4835. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

23. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Justine Y

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SUPERVISORY PATENT EXAMINER
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5/27/05.

Kathleen J. Prunner

Kathleen J. Prunner

May 18, 2005